ET240104772US

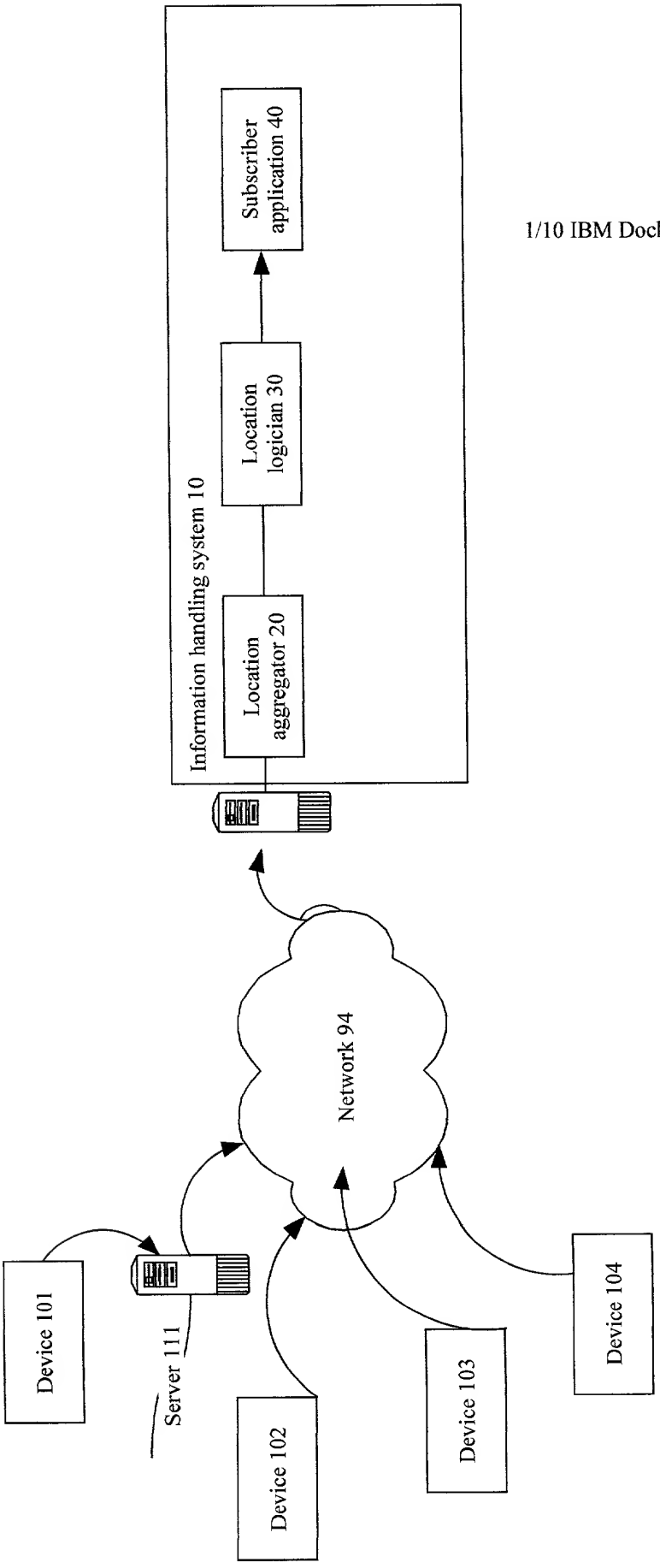

FIG. 1

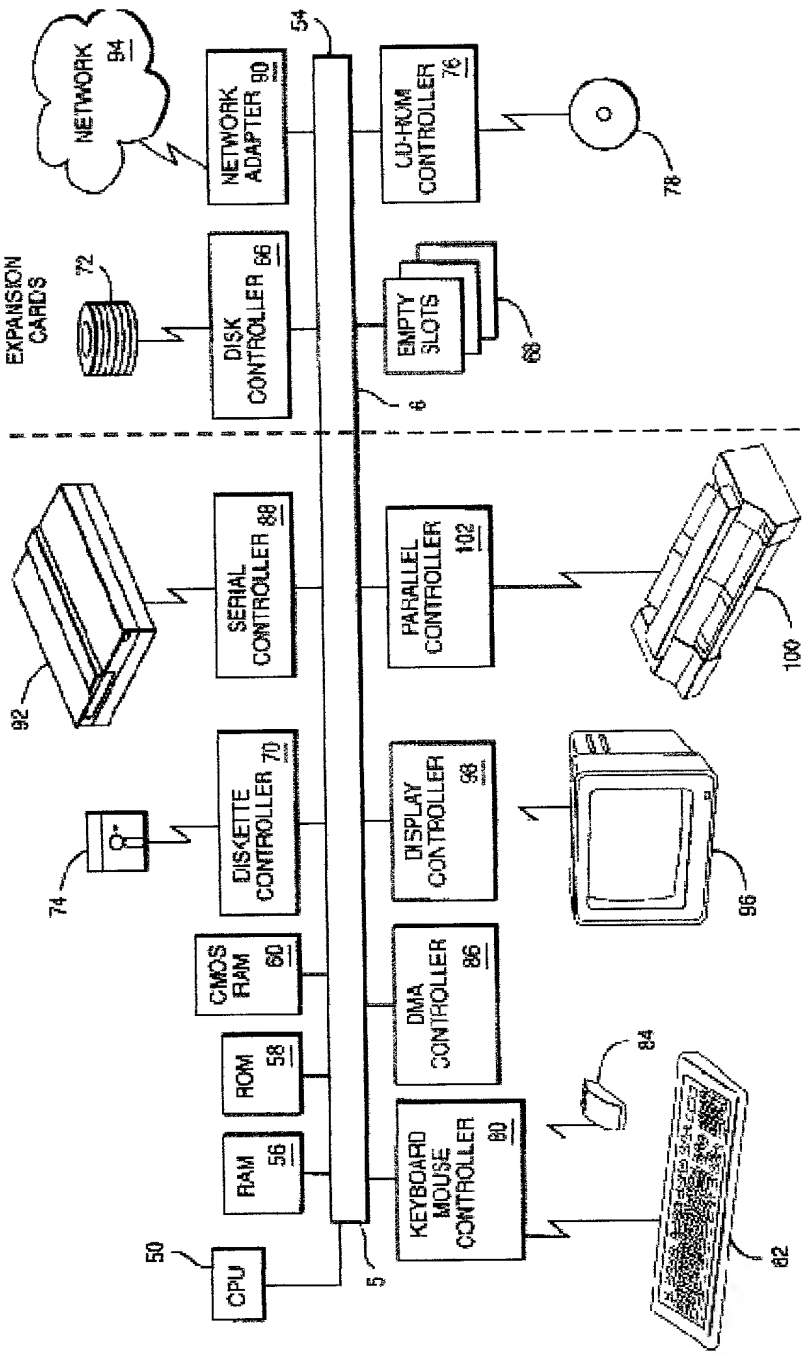
NETWORK
94
NETWORK ADAPTER 90
54
CD-ROM CONTROLLER 76
78
EXPANSION CARDS
72
DISK CONTROLLER 86
EMPTY SLOTS
68
6
92
SERIAL CONTROLLER 88
PARALLEL CONTROLLER 102
100
74
DISKETTE CONTROLLER 70
DISPLAY CONTROLLER 98
96
CMOS RAM 60
DMA CONTROLLER 86
ROM 58
RAM 56
KEYBOARD MOUSE CONTROLLER 80
84
50
CPU
5
82

FIG. 2

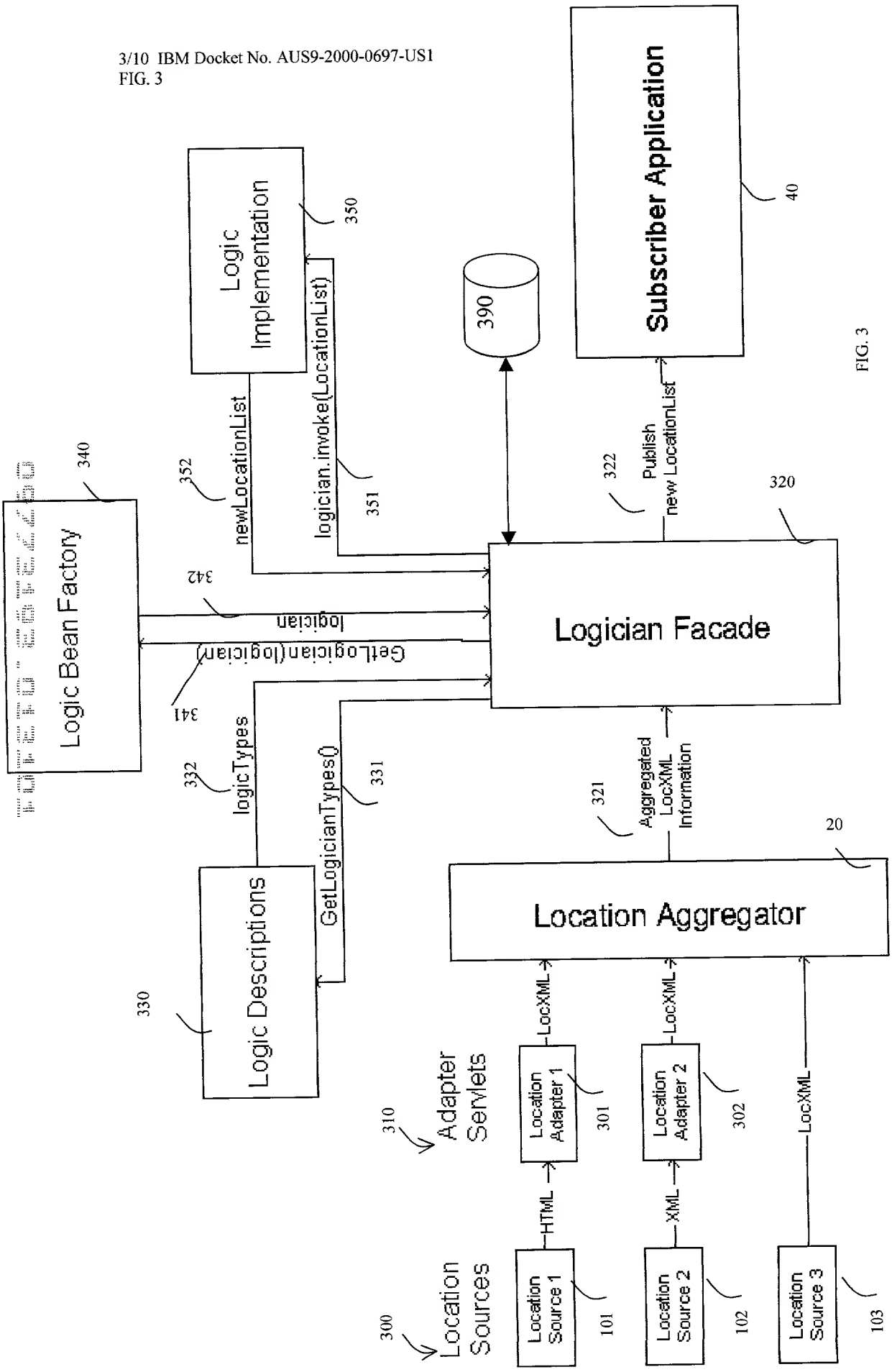
Logic Bean Factory
340
Logic Implementation
350
Subscriber Application
40
390
newLocationList
352
logician.invoke(LocationList)
351
Publish new LocationList
322
320
342
logician
GetLogician(logician)
341
Logician Facade
logicTypes
332
GetLogicianTypes()
331
Aggregated LocXML Information
321
20
Logic Descriptions
330
Location Aggregator
LocXML
LocXML
LocXML
Adapter Servlets
310
Location Adapter 1
301
Location Adapter 2
302
HTML
XML
Location Sources
300
Location Source 1
101
Location Source 2
102
Location Source 3
103

FIG. 3

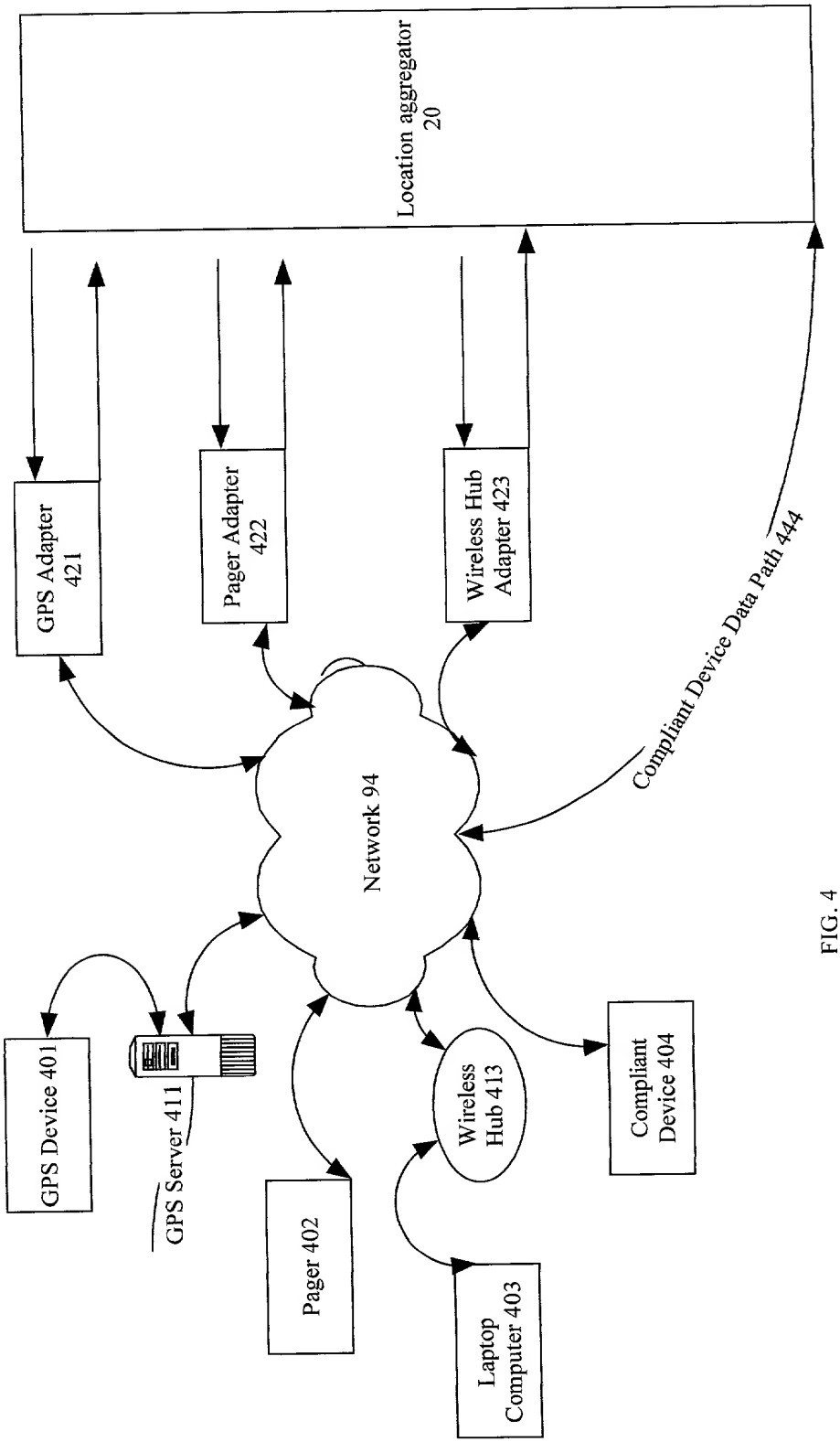
Location aggregator
20
GPS Adapter
421
Pager Adapter
422
Wireless Hub
Adapter 423
Compliant Device Data Path 444
Network 94
GPS Device 401
GPS Server 411
Pager 402
Wireless
Hub 413
Compliant
Device 404
Laptop
Computer 403

FIG. 4

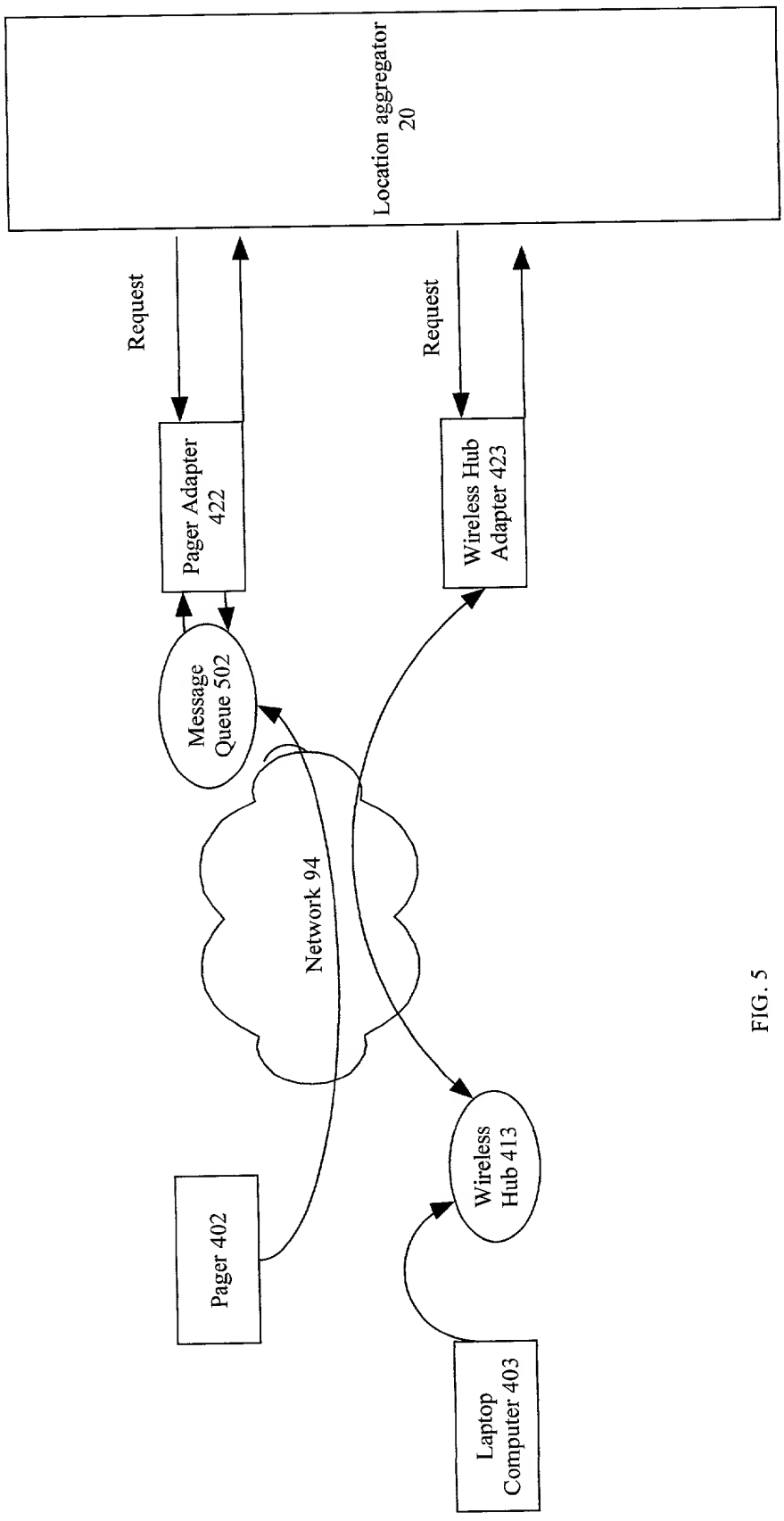
Location aggregator
20
Request
Request
Pager Adapter
422
Wireless Hub
Adapter 423
Message
Queue 502
Network 94
Pager 402
Wireless
Hub 413
Laptop
Computer 403

FIG. 5

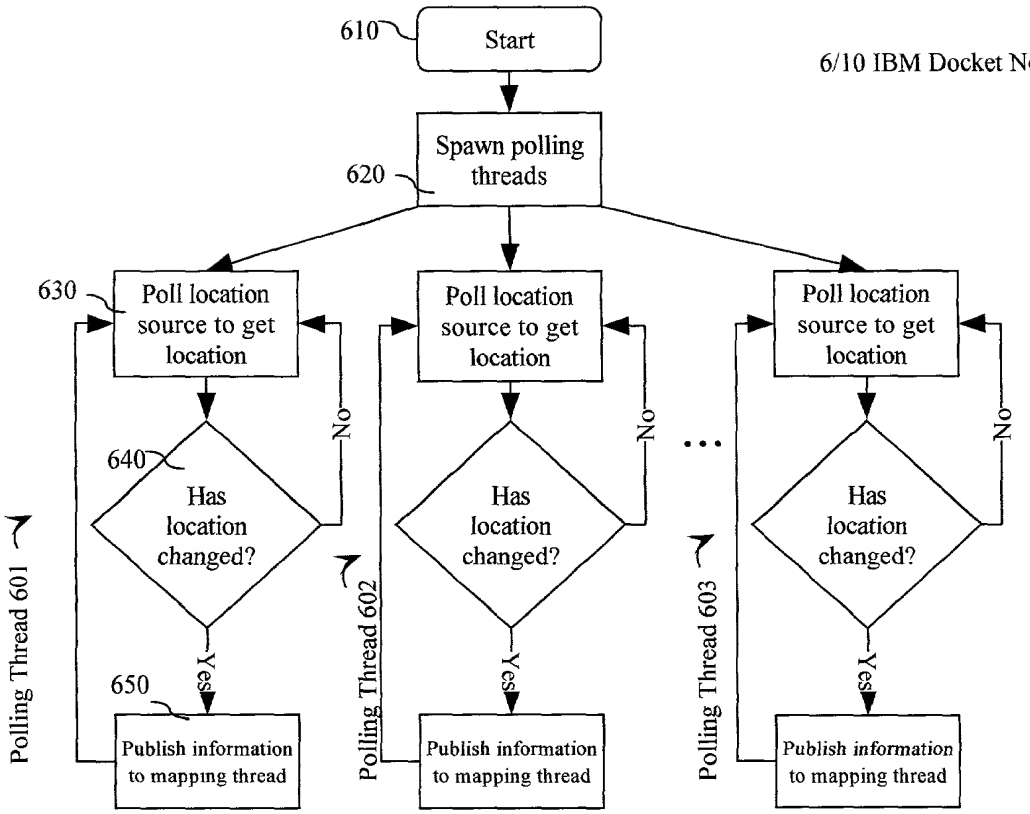
610
Start
620
Spawn polling threads
630
Poll location source to get location
640
Has location changed?
No
Yes
650
Publish information to mapping thread
Polling Thread 601
Polling Thread 602
Polling Thread 603
...

FIG. 6

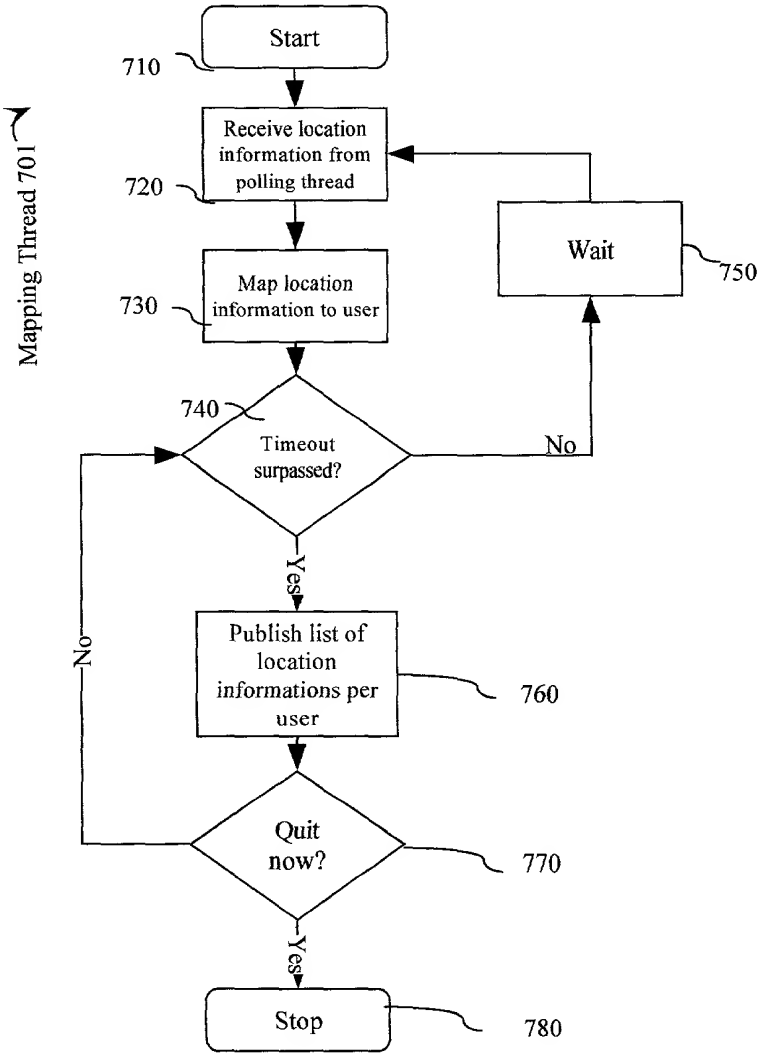
Start
710
Receive location information from polling thread
720
Map location information to user
730
740
Timeout surpassed?
No
Yes
Wait
750
Publish list of location informations per user
760
Quit now?
770
Yes
No
Stop
780
Mapping Thread 701

FIG. 7

FIG. 8

```
- <LocationInformation>                                                    811
  - <MobileDevice TrackID="1234567890" RequestTime="20000626115751+-0800" ErrorCode="0">
    - <Geographic Velocity="0" PositionTime="20000626115751+-0800">                    832
      - <GeodeticDatum>
        - <WGS-84>
            <LatLong PositionFormat="IDMS0" Latitude="N374820" Longitude="W1222738" />
          </WGS-84>                                                                    833
        </GeodeticDatum>
        <HeightDatum HeightFormat="meters" HeightValue="500" />
        <Region RadiusFormat="meters" InnerRadius="0" OuterRadius="100" StartAngle="0" StopAngle="360"
          LevelOfConfidence="100" />
      </Geographic>
      <TowerID PositionTime="20000626115751+-0800" Name="95110" Type="ZIP" />
    </MobileDevice>                                                  872
  </LocationInformation>
                                                                     871
```

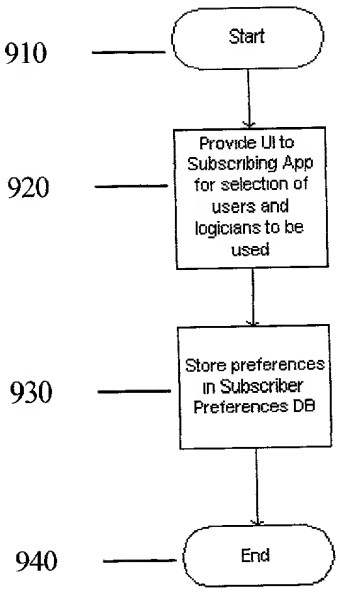
910
Start
920
Provide UI to Subscribing App for selection of users and logicians to be used
930
Store preferences in Subscriber Preferences DB
940
End

FIG. 9

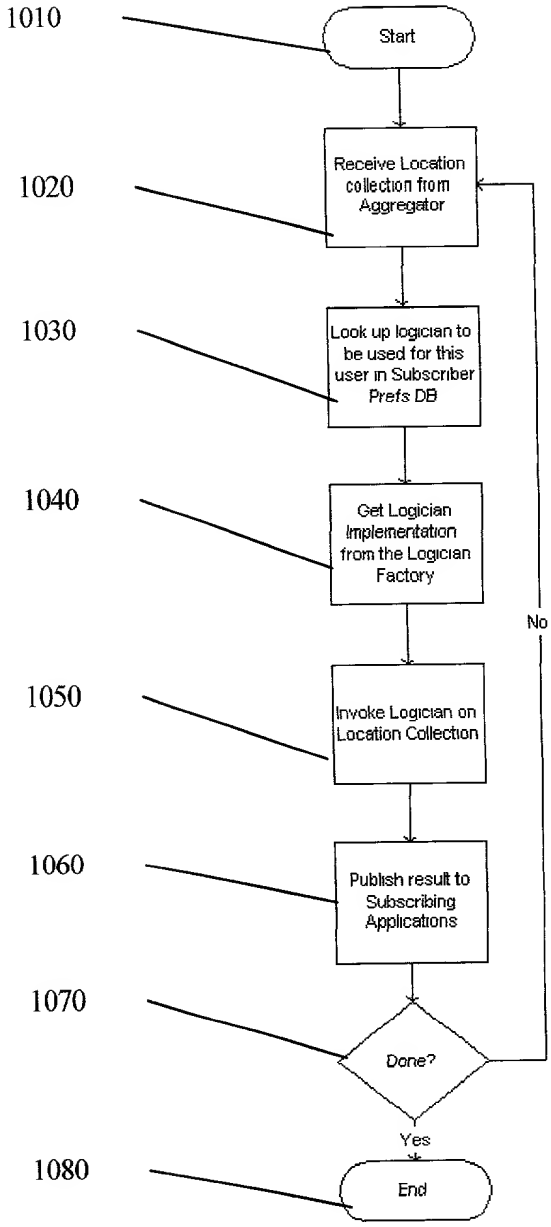
1010
Start
1020
Receive Location collection from Aggregator
1030
Look up logician to be used for this user in Subscriber Prefs DB
1040
Get Logician Implementation from the Logician Factory
1050
Invoke Logician on Location Collection
1060
Publish result to Subscribing Applications
1070
Done?
No
Yes
1080
End

FIG. 10

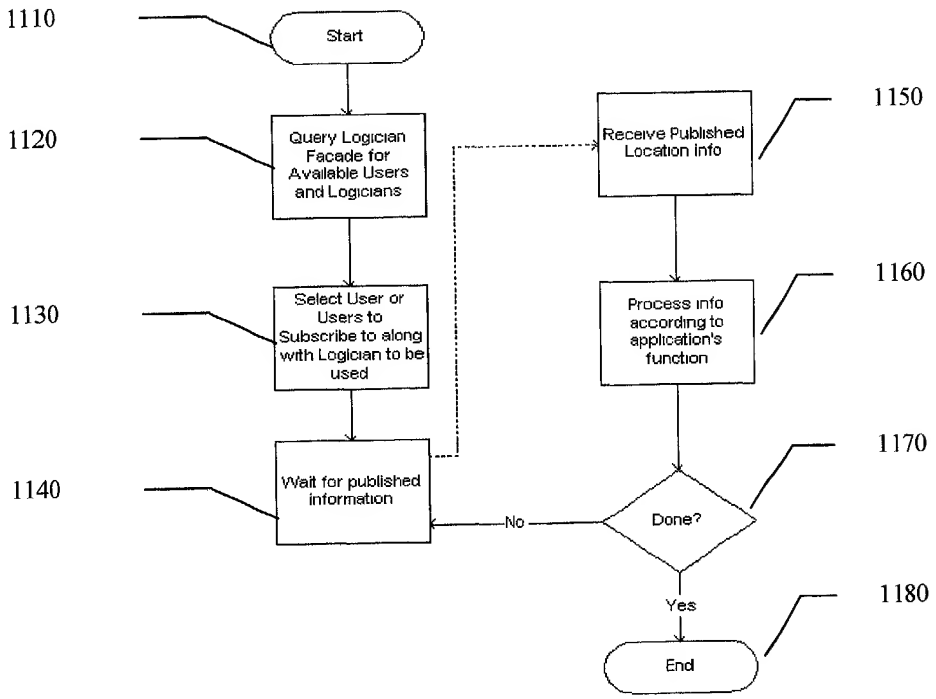
1110
Start
1120
Query Logician Facade for Available Users and Logicians
1130
Select User or Users to Subscribe to along with Logician to be used
1140
Wait for published information
No
1150
Receive Published Location Info
1160
Process info according to application's function
1170
Done?
Yes
1180
End

FIG. 11